28. The method of Claim 1 wherein the adaptation of the tire characteristics takes place when a deviation from a tire characteristic is detected on the basis of a comparison of the results from the driving-dynamics simulation model and the determination of the state of the roadway.

29. The method of Claim 1 wherein the state of the roadway is determined by means of a plurality of different roadway sensors, the information derived from their signals being evaluated by means of a bound method for delimiting the state of the roadway.

30. The method of Claim 3 wherein the roadway sensors include at least three sensors selected from the group consisting of: air temperature, roadway temperature, optical detection of snow, optical detection of ice, optical detection of water, optical detection of dry roadway, acoustic detection of snow, acoustic detection of ice, acoustic detection of water, and acoustic detection of dry roadway.

31. The method of Claim 1 wherein the tire characteristic diagram comprises tire characteristics selected from the group consisting of: circumferential-force vs. slip curve for particular states of the roadway, and lateral-force vs. slip-angle curves for particular states of the roadway.

32. The method of Claim 1 wherein the tire characteristic diagram comprises tire characteristics selected from the group consisting of: circumferential-force vs. slip curve for particular states of the roadway and for different wheel loads, and lateral-force vs. slip-angle curves for particular states of the roadway and for different wheel loads.

33. The method of Claim 1 wherein the tire characteristic diagram comprises tire characteristics selected from the group consisting of: circumferential-force vs. slip for different wheel loads, and lateral-force vs. slip-angle curves for different wheel loads.

34. The method according to Claim 1 wherein the tire characteristic map comprises at least three basic tire characteristics for states of the roadway selected from the group consisting of: dry, damp, wet, shallow water, deep water, snow, ice, and loose underlying surface.

35. The method according to Claim 1 wherein the tire characteristic maps comprise between about 20 and 40 tire characteristics for determining adhesion and adhesion limit.

36. The method according to Claim 1 wherein the tire characteristic maps comprise less than about 40 tire characteristics for determining adhesion and adhesion limit.

37. The method according to Claim 1 wherein the tire characteristic maps comprise less than about 20 tire characteristics for determining adhesion and adhesion limit.

38. The method of Claim 8 wherein a tire characteristic map is supplemented in the course of operation with tire characteristics for further states of the roadway.

39. The method of Claim 8 wherein during adaptation of one tire characteristic, one or more further tire characteristics of one or more tire characteristic maps is adapted accordingly.

40. The method of Claim 3 wherein the bound method takes into account information from the driving-dynamics simulation calculation.

41. The method of Claim 3 wherein a bound method takes into account the initial slope of the adhesion curve.

42. The method of Claim 1 wherein adaptation of the tire characteristics is carried out in an approximate manner in the region of normal operating states of the vehicle and is carried out accurately in the region of the driving limit.

43. The method of Claim 1 wherein the determination of the adhesion limit is carried out in an approximate manner in the region of normal operating states of the vehicle and is carried out accurately in the region of the driving limit.

44. The method of Claim 16 wherein the accurate adaptation or determination is carried out when the linear initial region of the selected tire characteristic has been exceeded.

45. The method of Claim 17 wherein the accurate adaptation or determination is carried out when the linear initial region of the selected tire characteristic has been exceeded.

46. The method of Claim 16 wherein the adaptation is carried out when a calculated operating point deviates from a selected tire characteristic.

47. The method of Claim 1 wherein the driving-dynamics simulation model is a real-time model by means of which the computer calculates in real time at least one item selected from the group consisting of: the current kinematic state of the wheel, the current adhesion of the wheel, and the current adhesion limit of the wheel.

48. The method of Claim 1 wherein driving-dynamics parameters which are derived from data measured by means of the driving-dynamics sensors are taken into account in calculating at least one of the items selected from the group consisting of: the adhesion, and the adhesion limit.

49. The method of Claim 1 wherein a determination for each axle is made for at least one item selected from the group consisting of: adhesion, and adhesion limit.

50. The method of Claim 1 wherein a determination is made for the entire vehicle for at least one item selected from the group consisting of: adhesion for the entire vehicle, and adhesion limit for the entire vehicle, and wherein the determination is made by means of the particular adhesion value of all wheels.

51. The method of Claim 1 wherein at least one item selected from the group consisting of: adhesion for the entire vehicle, adhesion limit for the entire vehicle is determined by means of the particular adhesion value and adhesion limit of all the wheels.

52. The method of Claim 1 wherein at least one selected from the group consisting of: adhesion for the entire vehicle, adhesion limit for the entire vehicle is determined by means of the particular adhesion limit of all the wheels.

53. An apparatus for carrying out a method for determining the adhesion and adhesion limit of a tire of a vehicle in motion comprising:

a computer for evaluating data from driving-dynamics sensors and at least one roadway sensor, the computer using a driving-dynamics simulation model to determine the kinematic state of the wheel and the adhesion and taking into account at least one stored tire characteristic diagram comprising tire characteristics and adhesion limit wherein the apparatus is designed to adapt the tire characteristics to the current tire behavior in the course of operation, starting from an initial set of basic tire characteristics.

54. The apparatus of Claim 27 further comprising:

a plurality of driving-dynamics sensors for measuring the driving state of the vehicle; and

at least one roadway sensor for detecting the state of the roadway.

55. The apparatus of Claim 27 wherein a plurality of different roadway sensors for determining the state of the roadway is provided, and the computer is designed to delimit the state of the roadway, taking into account the information derived from the signals of the roadway sensors and using a bound method.

56. The method of Claim 1 wherein the roadway sensors further detect at least one property of the underlying surface selected from the group of properties comprised of: roughness, type of material, oil covered surface, leaf covered surface, and sand covered surface.

57. The method of Claim 30 wherein the tire characteristics map comprises basic characteristics for various wet states of the roadway and properties of the underlying surface.

58. The method of Claim 30 wherein the tire characteristics map comprises tire characteristics for various wet states of the roadway and properties of the underlying surface.

59. The method of Claim 1 wherein the tire characteristic map comprises tire characteristics for different wheel speeds in at least one form selected from the group consisting of: circumferential-force vs. slip, and lateral-force vs. slip-angle.

60. The method of Claim 1 wherein a determination for each wheel is made for at least one item from the group consisting of: adhesion, and adhesion limit.

61. The method of Claim 1 wherein a determination for each track is made for at least one item from the group consisting of: adhesion, and adhesion limit.

62. The method of Claim 1 wherein a mathematical tire model for generating the tire characteristics is used instead of a stored tire characteristic diagram, to determine at least one item from the group consisting of: adhesion, and adhesion limit, the transition from one tire characteristic to another being effected by changing one or more parameters of the tire model.

63. The method of Claim 1 wherein a mathematical tire model for generating the tire characteristics is used as a supplement to a stored tire characteristic diagram, to determine at least one item from the group consisting of: the adhesion, and adhesion limit, the transition from one tire characteristic to another being effected by changing one or more parameters of the tire model.